JOHN J. MONTGOMERY MEMORIAL CADET SQUADRON 36

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The

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ARTICLES! If you have an interesting "tidbit" to share, e-mail it to Squadron 36 at:

jsena@mindspring.com

or type your notes and send them to:

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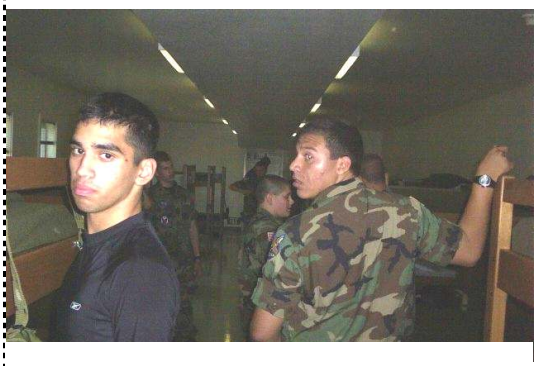
ADVANCE TRAINING FLIGHT

By Cadet Michael Campos
Bravo Element

Between August 5 and August 12, the 2006 California Wing encampment did its stuff: training nine flights of basic cadets to become the newest members of the Cadet Training Group (CTG). With Basics learning and the staff keeping the Basics on the edge of their seats, there was only one unit left to do the other jobs such as maintaining the ammo, or providing support for the busy flight. That unit was the AFT (Advance Training Flight). This year I returned to encampment, along with Cadet Herbert by my side, to provide support for Basics and staff members.

When Cadet Herbert and I first arrived, we were rushed into our barracks and, instead of standing at attention for two hours like basic cadets, we immediately went into action. We started by making our bunks, then organizing our wall lockers to encampment standards. By dawn we were in the barracks, with 14 other advance cadets, prepping our barracks for our first inspection. With our squadron commanders, Cadets McCoy and Giles, keeping their hands off, we realized that we were in charge of the week and that we had the responsibility of showing everyone we would be a useful tool in this encampment. That responsibility came with some problems.



Getting those barracks ready!

I admit that, while it was great to be free from control, it also created problems. Throughout the week, the entire flight argued to have their say on how the week would be run. Our squadron commanders kept their hand off and rarely offered suggestions and, as a result, there was anarchy. As I once said to one of the cadets, "It was like having an army of generals!" Everyday the squadron commanders appointed a new flight sergeant and flight commander but, when we were not drilling, they had little control over the ATF. Even at night, when the the lights were out, cadets still were talking and fooling around and I was very paranoid. Every night I would sleep with a flashlight under my pillow, because it was the only weapon of defense that I had while others carried pocket knives and bayonets (just kidding!) Despite this problem, we somehow managed to keep our barracks clean, meet the encampment standards, and be a functional support unit for the rest of encampment.

(continued on page 2 – ATF)

Some scope tips… just to keep an accurate eye on things.

JOHN J. MONTGOMERY
MEMORIAL
CADET SQUADRON 36

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Meetings every Tuesday
7:00 p.m. – 9:30 p.m.

On the Web:

http://sq36.cawg.cap.gov

Organization

Commander
Maj Mike "Monty" Montgomery

Deputy Commander
Capt Michael A. Hodges

Administration & Personnel
2d Lt Joanna M. Lee

Aerospace Education Officer
1st Lt J. Kenneth Palmer

Moral Leadership Officer
Chaplain (Capt) David J. Prado II

Finance Officer
1st Lt J. Kenneth Palmer

Assistant Finance Officer
2d Lt Jacoba Sena

Leadership Officer
Maj Johanna J. Montgomery

Assistant Leadership Officer
2d Lt Lance J. Scott

Logistics Officer
Lt Col James H. Sena

Professional Development Officer
Lt Col James H. Sena

Public Affairs Officer
2d Lt Jacoba Sena

Safety Officer
Capt Michael A. Hodges

Testing Officer
Maj Johanna J. Montgomery

Assistant Testing Officer
SM Marici P. Reid

Cadet Special Activities
1st Lt Jan E. Orvick

Cadet Commander
C/2d Lt Aaron K. Guerrero

(ATF – continued from page 1)

Riding in an APC (armored personnel carrier) and kicking up some dust along the way.

The first and best thing I think we did was getting "tank" rides. On Tuesday, we left after breakfast and headed to Camp Roberts where a tank division is stationed. We were given MRE.s (meals ready to eat) and headed in for a tour of the post, along with inside scoops on the latest technical stats for the Abrams tank. After we were done, we split into two teams and headed out to blitz our way across the rough mountains. It was awesome! The field was so dry that sand danced all over our face and the adrenaline was high as we moved down the hills and up and down ramps. By the end of the ride, our faces, blouses, and even our teeth were covered in dirt and nobody hesitated to laugh, especially at me and Cadet Rivers, since we were the filthiest. We got back to the camp and threw our BDU's into the washer and spent the rest of the day in PT (physical training) gear.

Cadet Campos all set for his turn at the firing range.

On the day of the rifle ranges, ATF was the first on site and the last ones to fire the guns. For the entire day, we loaded magazine after magazine of bullets that were given to basic cadets to fire in their M-16s. After the last basic flight left, we watched a special forces team perform a firing exercise and received inside information on what a true marksman really should shoot for. After we returned to the camp site, we headed to the mess hall and chilled out after a long day of work.

We spent the rest of the week in leadership classes, met the wing commander, and had lectures by the commandant and TAC officers. We also had the honor of cleaning the M-16s before locking them away. We practiced innovative drills and performed them in front of the basics then the entire CTG. In the end, it was worth coming back to encampment as ATF. We got to have fun, get the inside scoop on how encampment works, and even learned a few things about ourselves. If any basics feel like they didn't get a challenge this year, come back as ATF next year; it will definitely rock your CAP world.

F-100 *SUPER SABRE*

On Aug. 20, 1955, Col. Horace A. Hanes flies the F-100 Super Sabre over the Mojave Desert, and establishes a new speed record of 822.135 mph. Col. Hanes was the director of Flight Testing for the Air Force Flight Test Center at Edwards Air Force Base, Calif. The F-100 was the USAF's first operational aircraft capable of flying faster than the speed of sound (760 mph) in level flight. The first production aircraft was completed in October 19.

http://www.af.mil/history/

CADET TRAINING GROUP • MCMLXXV
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CTS
SUCCESS

(Circles - continued from page 4)

Like a preacher before his flock, your instructors have religiously preached about keeping your speed between 350 knots and 450 knots. Memorize these numbers; they are life and death. Cruising around at 250 knots is the surest way to invite a shot up airplane or a parachute ride.

Why is speed so important? Speed is the most direct, real-time energy state counter we have. It tells us exactly how much energy we have to use in our turn. As you make control inputs (move the joy stick), you will start to change your airspeed, which in turn tells you how much energy you have left. It also indicates the rate of change to your energy. If you command more stick back, you will "spend" energy and airspeed at an alarming rate. The key here is to know how much margin you have. At 450 knots, you have a lot of energy to spend. Conversely, at 350 you have very little energy to spend. If you command a 9G turn at 350 knots you will be down to 200 knots very quickly and it will take a lot of time to get back to 350 knots. Time you may not have.

Newton's Third Law of Motion states that "for every action there is an equal and opposite reaction." This is a foundation of flight. It's what we learned in Aerospace education as one of the key components of lift. Well, guess what? It's also a major component in turning aircraft! When you command a high performance turn (generally high G and high rate) you are trading several things in order to make it happen. They are all seen as energy. Even the fuel you are burning is energy. Let's step through a turn. First, you command full afterburner power. This adds energy into the system by exchanging fuel for acceleration (or noise as the old joke states). If you look at this fuel conversion slightly differently, it too falls into Newton's 3rd law. Second, you command a quick roll in order to get to 90 degrees of bank as soon as possible. This is followed by a lot of back pressure required to "pull" the nose through the air. This takes the sum of all the energy already present, as described in knots of airspeed, and the thrust of the now full throttle engine and converts into a very high performance turn. If you continue to pull, you will deplete the system of energy. Even at full power, the F-16 is not capable of sustaining a 9G corner at altitude. As a pilot, the only thing you can do is ease off the back pressure on the joystick. Keeping an eye on your air speed is going to tell you how much back pressure you can use. The F-16 designers made it easy for us. That big right hand is your energy meter. The longer and harder you pull the more energy is spent turning. It's called "G for brains." The harder you pull the more "G" you put on the aircraft and the more energy you spend and the more you hurt in real life. Therefore "max performing" is not simply slamming the throttle forward and pulling as hard as you can. It's about knowing how much energy you have and how to manage it.

Practice makes perfect.

In the real world, pilots jump into the F-16, tear through the sky, sling around corners, squeezing their bodies into the seat pan, in order to "out turn" another F-16. We don't the get the joy (or pain) of pulling G's but the load still costs and hurts if you are too aggressive. At our next fly-in, you will be given the opportunity to practice "Max Performing" against your instructors. With enough seat time and a better understanding of the text above, you will become better pilots and advance to the position of Fighter Pilots!

Turning circles.

Ok, so we're all super pilots, but not quite fighter pilots. What's the big deal? I can hold airspeed and drive around the corner with the best of them! Now we are going to talk about the two types of circles important to an F-16 fighter pilot.

The radius turn, or how small can you go. (Part A of the "angles fight.")

The radius turn is fairly self descriptive. It's the turn that draws the smallest physical circle in the air. If my circle is smaller then yours, I will "cut you off at the pass." I can get to your tail and shoot you down before you finish your turn.

The turn rate, or how fast I swing the nose through the sky. (Part B of the "angles fight.")

"Ok 2d Lt Smarty Pants, our Radii are the same; now what?" This is where my superior rate will allow me to pull my nose to your tail and shoot you down.

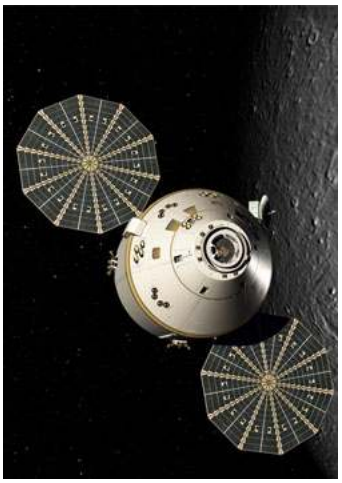
Keeping your speed up allows you both of these options! Flying around at 350 knots or slower only allows for one option, wreckage! In skiing and hockey when one has a spectacularly stupid collision, and they shed articles of clothing or equipment in the ensuing tumble, it is referred to as a "yard sale." Do not become an aerial version of a "yard sale." *(continued on page 6 – Circles)*

BACK TO THE MOON

Washington, D.C., August 31, 2006 -- The National Aeronautics and Space Administration (NASA) announced today that it has selected the Lockheed Martin [NYSE: LMT] team to design and build the agency's next-generation human space flight crew transportation system known as Orion, with an initial contract value of approximately $4 billion.

Orion, an advanced crew capsule design utilizing state-of-the-art technology, is a key element of NASA's Vision for Space Exploration, and will succeed the Space Shuttle in transporting a new generation of human explorers to and from the International Space Station, the Moon, and eventually to Mars and beyond.

Orion will transport up to six crew members to and from the International Space Station, and up to four crew members for lunar missions. The new crew vehicle is designed to be an order of magnitude safer, more reliable, more affordable and more operationally efficient than previous human space flight systems.



Artist's rendering of the Orion spacecraft.

http://www.lockheedmartin.com/wms/findPage.do?dsp=fec&ci=17865&rsbci=0&fti=111&ti=0

SCHEDULE

NOTE: **Unless otherwise indicated, all meetings and activities will begin and end at Squadron 36's regular meeting location.**

NOTE: ITEMS IN RED FACTOR INTO CADETS' ATTENDANCE RECORDS.

NOTE: ITEMS IN BLUE ARE FOR CAP OFFICERS ONLY.

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The "Who's Who" of the USAF and CAP are here, along with their biographies!

http://sq36.cawg.cap.gov/keyfigures.html

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SPECIAL NOTE!!!!!!

The term "Senior Member" (when referencing CAP members 21 years of age and older) is being phased out.

Maj Gen Pineda, CAP's National Commander, encourages all CAP members to begin using "CAP Officer" or "Officer" (where appropriate) in place of "Senior Member," beginning August 24, 2006.

September 2006	
Sept 5, 2006	**Start Class: Junior Cadet Element – Flanks, Senior Cadet Element – Command Voice. Middle Class: CAP Jeopary – all cadets. End Class: CAP Jeopary – all cadets. Service Uniform or CAP equivalent.**
Sept 6, 2006	**CAP OFFICER STAFF MEETING: 7:00 p.m. – 9:00 p.m.**
Sept 12, 2006	**ACTIVITY: Evergreen Expedition @ Evergreen Valley College – all cadets. BDU or CAP equivalent. 7:00 p.m. – 9:30 p.m. POC for this activity is:** Maj Jo Montgomery: johanna.j.montgomery@lmco.com
Sept 15-16, 2006	**ACTIVITY: Flight Simulator "Fly In" - the evening of 15th will be set up night and flight operations will take place on the 16th.** **--Daily start times to be announced prior to the Fly In.** **--The location will be Moffett Field on the 129th ANG Wing side.** **--Transportation logistics will also be arranged and announced prior to activity** POC for this activity is 2d Lt Lance Scott: Lance.Scott@wellsfargo.com
Sept 19, 2006	**Start Class and Middle Class: PT, all cadets. End Class: AE Model Airplanes, all cadets. BDU or CAP equivalent for classes; workout attire for PT.** NO PT IN BDUS!
Sept 23, 2006	**ACTIVITY: Reid-Hillview Airport Days. 7:30 a.m. – 4:30 p.m. BDUs or CAP equivalent.**
Sept 26, 2006	**Start Class and Middle Class: Moral Leadership, all cadets. End Class: Flight Time – CAP Opportunities, all cadets. BDU or CAP equivalent.**
October 2006	
October 3, 2006	**Start Class: Squadron Commander Inspections – all cadets. Middle and End Class: Senior Element, Ch. 3 (Role of the NCO), Junior Element, Ch. 1 (Drill Movements.) Service Uniform or CAP equivalent.**
October 5, 2006	**CAP OFFICER STAFF MEETING: 7:00 p.m. – 9:00 p.m.**
October 10, 2006	**Start Class: ES – all cadets. Middle and End Class: Flight Sims – all cadets. Service Uniform or CAP equivalent.**
Oct 13-14, 2006	**ACTIVITY: Flight Simulator "Fly In" – set-up on the 15th, Sims on the 16th** **--Daily start times to be announced prior to the Fly In.** **--The location will be Moffett Field on the 129th ANG Wing side.** **--Transportation logistics will also be arranged and announced prior to activity** POC for this activity is 2d Lt Lance Scott: Lance.Scott@wellsfargo.com
October 17, 2006	**Start Class and Middle Class: PT, all cadets. End Class: AE, all cadets. BDU or CAP equivalent for classes; workout attire for PT.** NO PT IN BDUS!
October 24, 2006	**Start Class and Middle Class: Moral Leadership, all cadets. End Class: Flight Time – CAP Opportunities, all cadets. BDU or CAP equivalent.**
October 27-29, 2006	ACTIVITY: CAWG Conference @ Bakersfield. Submission Deadline Details, Payment Information, and Lodging Information may be located here: http://www.cawg.cap.gov/cawg2006.htm
October 31, 2006	**NO MEETING – ENJOY THE NIGHT OFF (SAFELY!)**

Cadets (and CAP Adult Officers, as examples) should strive to attend 75% or more of all regular meetings and 50% or more of all activities!

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(Circles – continued from page 5)

And now for the actual physics of it all…..

Newton's Third Law. The airplane in straight and level flight is seen as though it is in "equilibrium." This means all the forces are in balance or equally at rest. When you turn the plan you are creating change in this balance. This causes Newton's Laws to come into play. When you turn an airplane the opposing forces are Drag and G Gravity (or G) and its understanding is crucial to manned flight. Weather its natural gravity or centrifugal energy the action is the same.

F=M*A or Force "energy state" is equal to the Mass times its Acceleration. The obvious example is the engine burning fuel. This conversion of fuel to heat, and pressure against the airframe accelerating it through the air. Another example is Force as G on the pilot. Ever wonder how we get forces greater then 1 G? Simple Acceleration is the answer. If the mass stays the same (f=ma), but

(Values – continued from page 7)

Regardless, respect within our organization rests upon each member's adherence to one, unilateral fact: despite personal opinions or values, we can only work together if we are professional, can set personal "beefs" aside, and respect the fact that we each have a role to play. Sometimes we'll get our way, sometimes we won't. Never take things personally…and if you (or the other person) are doing things with respect for the way CAP must do business, there should never be cause take anything personally! What's more, you'll be respected in the genuine sense!

I honestly consider these values at least once a day…as a commander, it's my job to represent the values I expect in my people. You should expect me to consider these every bit as much as I expect them in all members of Squadron 36.

Until the day we part company, you can expect that I will meet my end of the bargain to the best of my abilities!

The Glider Express
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For Parents and Families